



Portals: Computer industry slowly grows greener

Wednesday, June 14, 2006

By Lee Gomes, The Wall Street Journal

One of the newest billboards in Times Square isn't advertising a consumer product or a Broadway show. Instead, the Advanced Micro Devices sign sports a huge digital readout showing how much money the world has spent on energy by not using the company's microprocessors. The figure is currently at \$1.1 billion -- and counting.

The chip maker's signage is a dig at arch-rival Intel. AMD's new Opteron microprocessors are 20 percent to 30 percent more energy efficient than comparable chips from Intel, though Intel says it will soon close the gap with new, more energy-aware chips of its own.

That the two big CPU makers can battle over who is saving the world more energy is a sign of the slow greening of the computer industry. And it's not just happening with computers: All manner of consumer electronics are involved.

Yes, Al Gore is on Apple Computer's board, but the industry is moving this way not because of pressure from the green lobby but largely because of customer demand. From nearly every part of the marketplace -- road warriors whose laptop batteries won't last through a cross-country plane ride to Wall Street brokerage houses whose server rooms cost too much to power and cool -- the message has been the same: We want to use less energy.

While the industry has by and large complied -- the Sierra Club says the computer industry sets an example Detroit auto makers would do well to follow -- there is a whack-a-mole element to the problem. As soon as one example of energy inefficiency is discovered and blotted out, another pops up to take its place.

First, consider the gains: CPUs are being designed to run cooler. LCD display screens are now widespread, using a third to a half as much power as the CRTs they replace. And modern operating systems work closely with hardware to turn off disk drives or slow down microprocessors if they aren't needed at a particular time.

No part of the PC has been immune from this conservation effort. Take the lowly power supply -- the part of your PC box with the fan and round grill. The new federal Energy Star standard, which will go into effect starting next year, calls for power supplies to be at least 80 percent efficient, meaning they should convert at least 80 percent of the AC power they draw into DC current the computer can actually use. Right now, the average efficiency is 60 percent to 65 percent.

Kent Dunn, senior program manager with Ecos Consulting, an energy research outfit in Portland, Ore., that helped develop the new power-supply guidelines, says that each one-watt savings in PC power results in the saving of at least a third of a watt in cooling costs, and possibly more. For companies running through millions of watts of computing power each year, such savings can add up.

Another big power drain on its way to being plugged involves the DC adapters that charge portable electronic devices like cellphones, music players and palm-style computing devices, as well as desktop accessories like printers and scanners.

These big black bricks -- affectionately called "wall warts" -- have long been a kind of secret energy tax for homes and businesses. As long as they are plugged in, they draw current -- often as much as 10 watts, even if the device they come with is unattached. They are cousins to the growing number of "always on" products, like the microwave oven that uses energy to display the time.

Alan Meier, an energy analyst with the International Energy Agency, says a typical U.S. home has as many as 100 of these gadgets. The problem was first highlighted in the 1990s, long enough ago for something to have been done about it.

Recently, though, California adopted a regulation that will, over the next two years, ban most devices that draw more than one watt of "standby power." A number of countries have followed the state's lead -- enough, Mr. Meier says, to force manufacturers to move to the new standard no matter where they sell their products.

So much for the half-full part of the glass. On the flip side, Bruce Nordman, an energy researcher with the Lawrence Berkeley Lab in Berkeley, Calif., notes that much of the energy savings from today's better-designed computers are canceled out because, thanks to the Web, we use our computers more than we used to.

Dr. Nordman also says the industry needs to do a better job designing these "always connected" devices. He argues that most of a unit ought to be able to go to "sleep," with just a small part staying awake enough to check for incoming messages.

Then, when you move from the den to the living room, things really start to get ugly. Those big-screen TVs that are turning up in millions of homes can use half as much power as a refrigerator, says Noah Horowitz, a senior scientist with the Natural Resources Defense Council. And TV makers have barely begun to think energy efficiency.

Nevertheless, says Mr. Horowitz, it's reasonable to project that better-designed TVs could save the country 10 billion kilowatt hours of power a year, as much as all of Delaware uses. "It's kind of a painless way to fight global warming," he says.

[Back](#)

Copyright © PG Publishing Co., Inc. All Rights Reserved.